



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,005	01/21/2004	Ted R. Massa	K-1945	4521
7590	01/27/2006			
Larry R. Meenan Kennametal Inc. P.O. Box 231 Latrobe, PA 15650			EXAMINER HOWELL, DANIEL W	
			ART UNIT	PAPER NUMBER
			3722	
DATE MAILED: 01/27/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/762,005

Applicant(s)

MASSA ET AL.

Examiner

Daniel W. Howell

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-12 and 16-21 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 13-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 5-20-04.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 3722

1. The use of the trademark DAISHOWA SEIKI BIG-PLUS®, SHOWA D-C-F®, AND NIKKEN 3LOCK® have been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

2. The drawings are objected to because at the bottom of figure 5, lines representing the lower end of the sleeve have been omitted. The missing lines should appear adjacent the pull stud. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 3722

3. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The circular cantilever of claim 21 does not appear to have antecedent basis.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 7-12, and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese 9-38837. Shank/inner portion 7a has a flange 11, an adjacent conical portion 26, a trailing cylindrical portion 14, and a pull stud 18. Located around the inner portion is a conical sleeve 10 having slits 38 at the conical forward end 23 and slits 39 at the conical rear end 31. As seen from figures 1 and 2, portions 23 and 31 are cantilevered, such that they will move radially as the spindle speed increases, such that the cantilevered portions will still contact the conical opening of spindle 1. Note also outer annular recessed portion 20 on the sleeve 10 between portions 23 and 31. Note also recessed regions 27, 34, internally of the portions 23, 31. The sleeve has internal cylindrical and conical surfaces which correspond to the external shape of inner portion 7a.

6. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese 2001-310228. Shank 10 of the tool holder has a forward part 10c having an inclination larger than the inclination of the tapered hole 3 of the spindle, but the diameter of this forward part 10c “generally corresponds” to the diameter of the tapered hole 3. The rearward portion 10b of the shank 10 is provided with an appropriate taper such that the shank part “is separated with a

Art Unit: 3722

clearance from an inner peripheral surface 3b on the deep part side on the tapered hole or it comes to be in a degree to make lightly contact with it in a state before rotation....” It is clear that once the spindle starts to rotate, then this area 10b will expand to seat properly in tapered hole 3.

7. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese 2002-346865. Spindle 2 has the typical conical hole 3. As seen in figures 2a and 2b, the tool holder has a larger diameter portion which conforms to the shape of the taper hole 3, but figure 2a shows a slight gap 37e between the rear portion of the tapered shank and the spindle hole. As seen in figure 2b, in operation the rear portion of the shank will deform to conform to the shape of the spindle hole.

8. Claims 1, 2, 4, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese 7-299614. Spindle 2 has the typical tapered hole 3a. The tool holder 5 has a conical shank with a first contact surface having a taper which matches the taper of the hole 3a and a second contact surface 26, which as shown in figure 5 has a slightly different taper angle. When pull stud 9 is pulled, ball 47 is cammed radially outward to flex the rear cantilevered section radially outward against the taper hole 3a. Surface 26 will also expand radially during rotation.

9. Claims 5, 6, and 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 571-272-4478. The examiner's office hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Boyer Ashley, may be reached at 571-272-4502.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number to 571-273-8300.

Art Unit: 3722

This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.

A handwritten signature in black ink, appearing to read "Howell", is positioned above the printed name.

Daniel W. Howell  
Primary Examiner  
Art Unit 3722